### ENERGY | Energy Efficiency & Renewable Energy



Clean Cities Program 2010 Update

#### Mike Scarpino

Clean Cities Regional Project Manager

US Department of Energy

National Energy Technology Laboratory

Michael.Scarpino@netl.doe.gov

#### **Presentation Overview**



- Program Overview
- ARRA Project Overview
- FY09 Projects Overview
- Noteworthy Pending Legislation
- Next Funding Opportunity: FY 11 & FY 12
- National Partner Efforts
- Clean Cities Tools and Resources

#### Clean Cities



#### Clean Cities' Mission

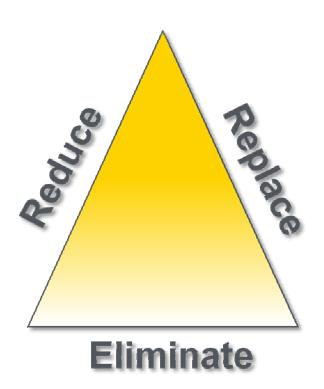
To advance the energy, economic, and environmental security of the U.S. by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption in the transportation sector.

- Sponsored by the DOE's Office of Energy Efficiency and Renewable Energy's Vehicle Technologies program
- Provides a framework for businesses and governments to work together as a coalition to enhance markets
- Coordinate activities, identify mutual interests, develop regional economic opportunities, and improve air quality
- Deployment of alternative fuels and advanced vehicle technologies

#### Petroleum Displacement Methods



- Replace petroleum with alternative fuels and low-level blends.
- Reduce by promoting energy efficiency in vehicles through advanced technologies and more fuel efficient vehicles.
- Eliminate by promoting idle reduction, greater use of mass transit, trip elimination, and other congestion mitigation approaches.



#### Clean Cities Portfolio of Technologies



#### **Alternative Fuels**

Biodiesel (B100)

Electricity

Ethanol

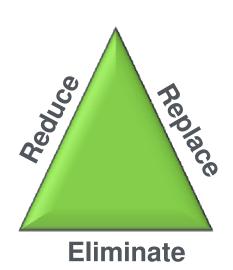
Hydrogen

Propane

**Natural Gas** 

#### **Idle Reduction**

Heavy-Duty Trucks
School & Transit Buses
Light-Duty Vehicles



#### **Hybrids**

Light- and heavy-duty
Hydraulic hybrids
Electric hybrids
Plug-In hybrids

#### **Fuel Economy**

More Fuel efficient vehicles, adopting smarter driving and vehicle purchasing habits

#### Deployment Efforts include 5 basic elements



#### 1) Consumer Information, Outreach, and Education:

Fuel Economy Guide, Alternative Fuel Data Center (AFDC), other web based consumer tools, targeted workforce and end-user education

#### 2) Local Community & Coalition Support:

Direct support for CC activities, public events, training for CC coalitions & key community decision makers, and deployment project coordination

#### 3) Partnership Development:

Targeted Industry, End-user, University, and Stakeholder Partnerships

#### 4) Technical & Problem Solving Assistance:

Addressing Market Barriers, Safety Issues, Technology shortfalls

#### 5) Financial Assistance:

Funding to Facilitate Infrastructure Development and Vehicle Deployment

#### Clean Cities Coalitions



## Established Network of Coalitions

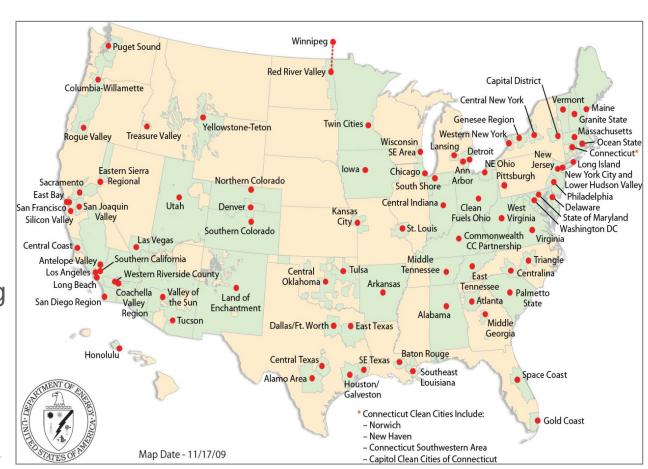
- ~100 coalitions & partnerships
- > 5,700 stakeholders from businesses, city & state governments, transportation industry, community organizations, fuel providers



#### Clean Cities Today



- 87 active coalitions in 45 states
- Coalitions serve
   78% of the population
- 632,000 AFVs using alternative fuels
- 5,600 AFV stations
- 6,500+ stakeholders



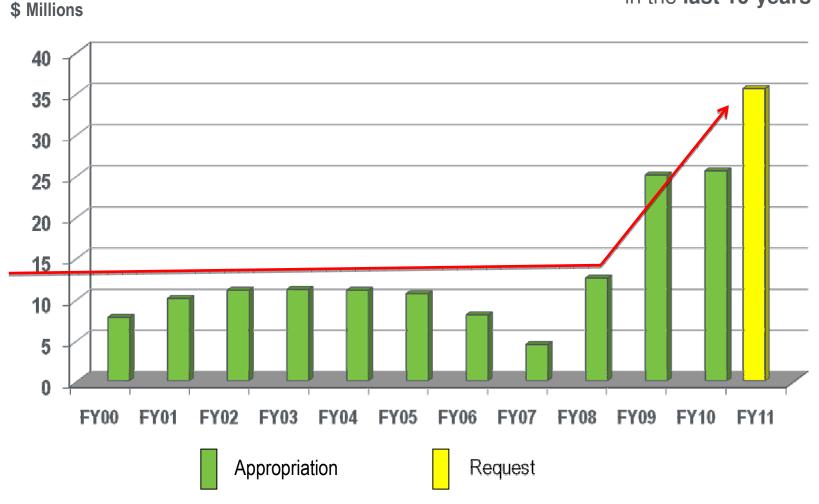
#### **Budget History**

(not including \$300M funding from ARRA)



#### **Clean Cities Budget**

\* ARRA \$300M is > 200% of the Clean Cities budget spent in the last 10 years





### **Clean Cities ARRA Projects**

## AOI 4: Alternative Fuel and Advanced Technology Vehicle Pilot Grant Program



#### **OBJECTIVES:**

- Increase the use of alternative fueled vehicles and advanced technology vehicles to reduce petroleum, increase efficiency, and improve emissions.
- Install infrastructure that supports alternative fuels.

#### **REQUIREMENTS:**

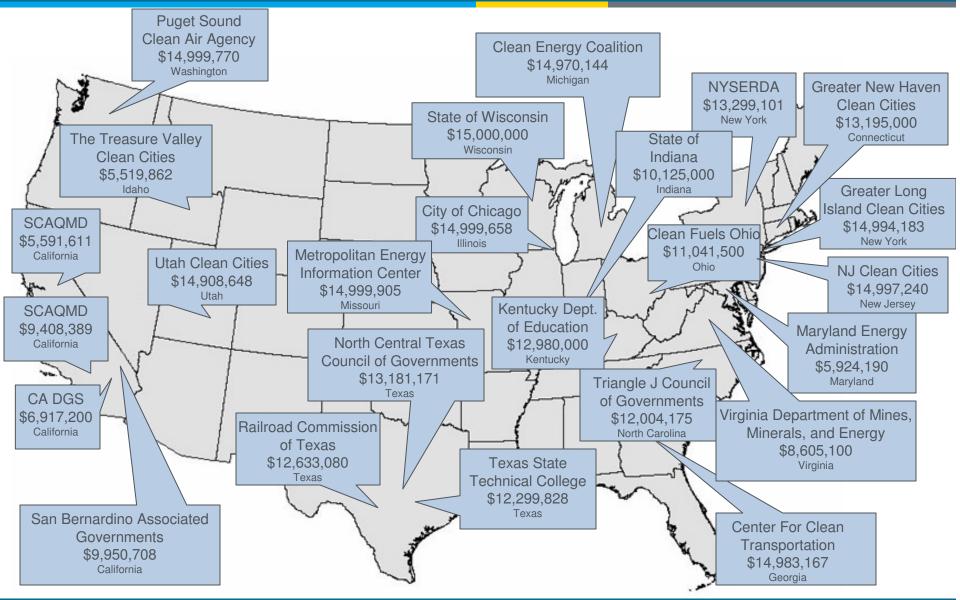
- Geographically dispersed project awards
- < 30 projects</li>
- Provide appropriate education and training for project participants and in the larger community about project benefits.
- Collect data on the success of the project through collection of vehicle, infrastructure and training information.
- ARRA focused on recovery of jobs.

### 

- \$300M in total Federal funding (ARRA)
- Represents 37% of total AOI 4 project costs
- 25 awards under AOI 4, nationwide
- 40M+ gge/yr petroleum displacement
- ~ 9,200 AFVs and advanced technology vehicles
- 1,000+ alternative fuel refueling or charging stations installed or upgraded
- 9,000+ jobs to be created
- ~ 1.9B lb CO<sub>2</sub>/yr of greenhouse gas (GHG) reductions

## Clean Cities Recovery Act Awards 25 Projects ~\$300M DOE ~\$500M Cost Share





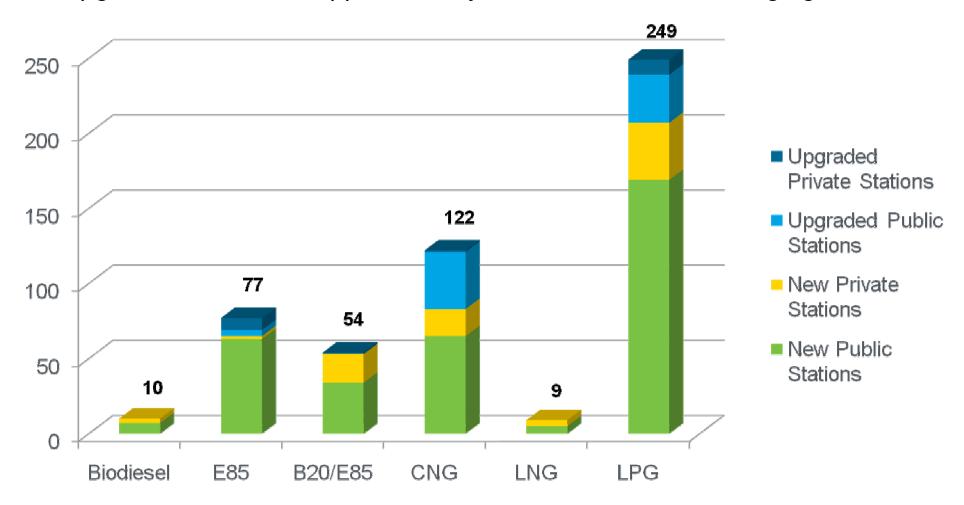
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#### Clean Cities Recovery Act Projects



Planned New & Existing Refueling Infrastructure by Fuel and Accessibility

More than 1000 alternative fuel refueling or charging stations will be installed or upgraded. Of these, approximately 550 will be electric charging stations.

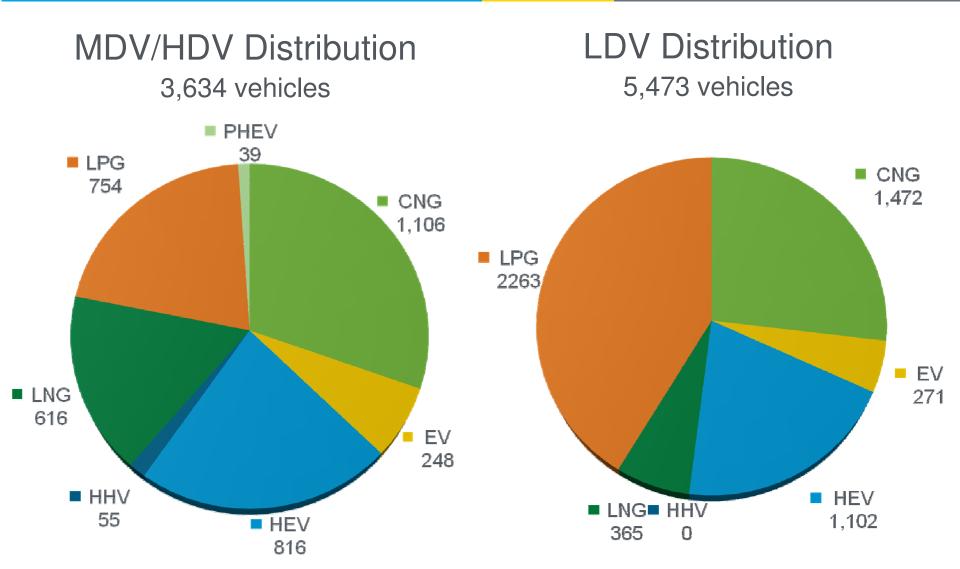


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#### Clean Cities Recovery Act Projects

Planned Vehicle Distribution by Fuel/Technology





\*9,107 total planned vehicle orders

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#### Sample Project Partners



Clean Energy®

**CLEANFUEL** 

#### National Fleets

- **United Parcel Service**
- Sysco
- Coca Cola
- Verizon
- Waste Management

veri**7**on

- Frito Lay
- Ryder
- Fed Ex
- **Allied Waste**
- Canteen Vending
- Other National Companies
  - Staples
  - ConnocoPhillips (4) Hilton
  - Marriott
  - Hilton
  - The Parking Spot







**STAPLES** 

#### Clean Energy

- Blossman Gas
- Clean FUEL USA

**Industry Partners** 

- Gas Technology Institute National Alt Fuels Training Consortium
- Propane Education & Research Council
- Daimler Trucks North America
- Bluebird
- Freightliner Trucks
- **CALSTART**



**DTE Energy** 



#### **Utilities**

- Questar Gas
- Peoples Gas
- **National Grid**
- Citizens Energy
- DTE Energy
- Commonwealth Edison





#### Sample Project Partners (cont)



- Regional/Local Fleets/Companies
  - Atlantic City Jitney Association
  - Meijer
  - Rumpke
  - Enviro Express
  - Manhattan Beer Distributors
  - Westchester Ambulette
  - Central Jersey Waste
- Colleges/Universities
  - University of Missouri KC
  - University of Michigan
  - University of Wisconsin-Madison
  - Washington State University
  - SUNY-Albany
  - James Madison University
  - University of Utah



#### Local Taxi Companies

- Red Top Cab (DC)
- Columbus Green Cabs (OH)
- Cleveland Yellow Cab (OH)
- Yellow Cab (Hartford CT)
- Metro Cab (New Haven CT)
- Happy Cab (Omaha NE)



#### State/Local Governments/Agencies

- California Energy Commission
- Dallas-Ft. Worth Int'l Airport
- City of Milwaukee
- Seattle-Tacoma Int'l Airport
- Indiana DOT
- Ann Arbor Transportation Authority
- Wisconsin DOT
- LA Unified School District
- Nassau & Suffolk Counties (NY)
- Hartsfield-Jackson Atlanta Int'l Airport





### **Clean Cities FY09 Projects**

#### Clean Cities FY09 Projects



- 1. Refueling Infrastructure for Alternative Fuels
  - A Retail Biofuels
  - B Terminal Blending & Gaseous Fuels
- 2. Incremental Cost of Alternative Fuel Vehicles
- 3. Education and Outreach Projects

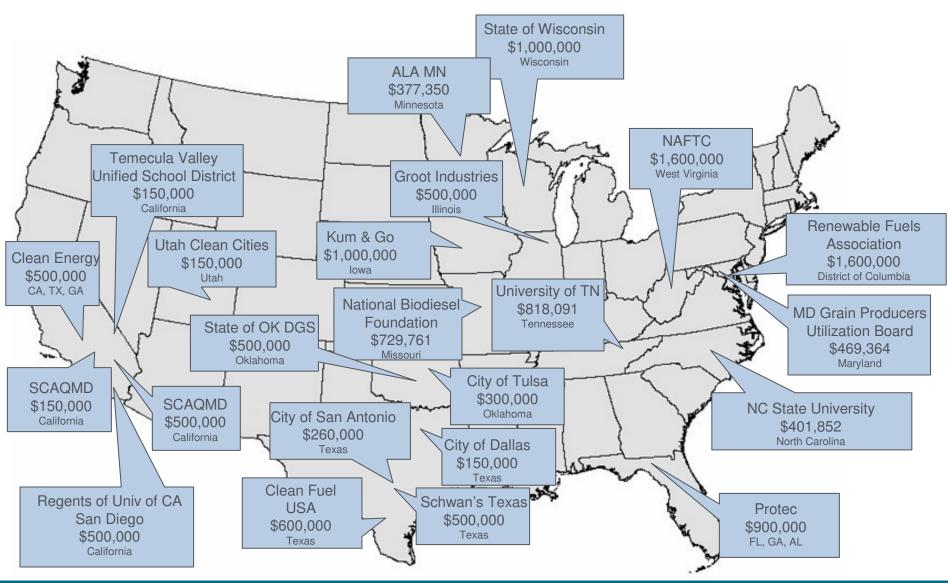
## Clean Cities FY 09 Projects: AOI #1, AOI #2, AOI #3:



- \$13.6M in total Federal funding
- 23 awards total
  - AOI #1: 13 awards, AOI #2: 7 awards, AOI #3: 3 awards
- 557 AFVs and advanced technology vehicles
  - 146 MD/HD CNG, 191 LD CNG, 5 HD CNG HEV
  - 150 MD/HD LPG, 65 LD LPG
- 185 alternative fuel refueling installed or upgraded
  - 108 E85, 30 B20, 20 CNG, 26 LPG, 1 LNG
- Over 100 workshops nationwide to increase knowledge and/or raise awareness about alternative fuels and advanced vehicle technologies.

## Clean Cities FY 09 Awards Geographical Distribution (AOI #1-3)







### **Noteworthy Pending Legislation**

## S.3495 - Promoting Electric Vehicles Act of 2010

- Sponsors
  - Sen. Byron Dorgan [D-ND]
  - Sen. Jeff Merkley [D-OR]



#### Status

- Introduced June 15<sup>th</sup>, 2010
  - Referred to Committee on Energy and Natural Resources
    - (Full Committee Hearing held 6/22)

### S.3495 - Key Elements

- *\$4 billion* to targeted Plug-in Electric Drive Deployment Communities Program
  - Five to 15 Phase-1 Deployment Communities
    - Five Year Goal: 700,000 Plug-in EV market penetration
    - Minimum \$2,500 consumer rebate/tax incentive, etc.
  - In addition to targeted Deployment Communities, it contains a 5-Year, \$100 million program to advance *nationwide* adoption
- Appropriates **\$1.5** billion in **R&D** 
  - Fiscal Years 2011 through 2020
  - Focus on Battery Technology
- Additional emphasis on consumer education & workforce training

## S.3495 - Promoting Electric Vehicles Act of 2010 (cont.)

#### Opposition:

- Alliance of Automobile Manufacturers
  - Trade Association for eleven major car and light truck manufacturers
  - "We believe the legislation should allow manufacturers, fuel providers, and communities the flexibility to invest in **multiple electric drive pathways**, including fuel cell electric vehicle and related hydrogen infrastructure."

#### • Favor:

- **Nissan** (an outlier of the Auto Alliance) believes there will be a 10% pure electric market penetration by 2030
- Electrification Coalition

## S.3511 - Promoting Electric Vehicles Act of 2010 (Modified version of S. 3495)

#### Sponsors

- Sen. Byron Dorgan [D-ND]
- Sen. Jeff Merkley [D-OR]
- Sen. Lamar Alexander [R-TN]



#### Status

- Introduced <u>June 18<sup>th</sup></u>, 2010
  - Referred to Committee on Energy and Natural Resources

### S.3511 - Key Elements (Modified S. 3495)

- Appropriates <u>\$2 billion</u> to Targeted Plug-In Electric Drive Vehicle *Deployment* Communities Program
  - Target Communities may request up to \$250 million
    - Minimum \$2,500 consumer rebate/tax incentive, etc.
  - 120 days after enactment of Act, criteria will be published for the selection of deployment communities
    - State, tribal, or local government entity (or coalitions of these)
  - 120 days later, the selected communities will be announced
  - Grants subject to a minimum of non-federal cost sharing requirement of 20%
- Appropriates \$1.5 billion for R&D
  - Grants & Awards to spur battery technologies
  - Fiscal Years 2011 through 2020

## S.3511 - Application Criteria for Pilot Communities

#### Goals of Each Community:

- Number of Plug-in EVs to be deployed in the community
- Light-Duty Vehicle Sales

#### • Evidence that:

- The public is likely to embrace Plug-in EVs
- Documentation demonstrating a substantial partnership with relevant stakeholders
  - Utilities, Governments, Elected Officials, Major Fleet owners, etc.
    - A clear description of the role and responsibilities of each stakeholder
- A proposed level of *cost sharing* is in accordance w/legislative requirements (20%)

#### • Plans:

- for deploying residential, private, and publicly available charging infrastructure
- for effective *marketing* of and *consumer education* relating to plugin electric drive vehicles, charging services, and infrastructure

## S.3511 - Application Criteria for Pilot Communities (cont.)

#### • Descriptions of:

- Updated construction, inspection, and permitting processes
  - Vehicle purchaser needs assurance that the infrastructure will be finished in *1 week*.
- Updated zoning, parking, and other local ordinances
- Each consumer in the community receives a *minimum of \$2,500* in consumer benefits, in addition to any
   Federal incentives
- A concrete Deployment Timeline

## S.3511 - Pilot Community Selection Criteria (DOE Perspective)

- The combination of selected communities is **diverse** in *population*, *demographics*, urban/suburban composition, typical commuting patterns, climate, and type of utility
- At least 1 community selected has a population of less than 125,000
- Each must maintain a community deployment plan for the deployment of plug-in EVs, charging infrastructure, and services in the deployment community

## H.R. 5442 - Electric Drive Vehicle Deployment Act of 2010

#### Sponsors

- Rep. Edward Markey[D-MA7]
- Rep. Judy Biggert [R-IL13]
- Rep. Anna Eshoo [D-CA14]
- Rep. Jerry McNerny [D-CA11]

#### Status

- Introduced May 27<sup>th</sup>, 2010
- Referred to:
  - House Energy and Commerce (Subcommittee Assignment)
  - House Oversight and Government Reform (Subcommittee Assignment)
  - House Science and Technology (Subcommittee Assignment)
  - House Ways and Means (Subcommittee Assignment)
  - House Transportation and Infrastructure (Subcommittee Assignment)
  - House Transportation and Infrastructure (Subcommittee Assignment)

### H.R. 5442 - Key Elements

- **\$800 million** to **\$1 billion** distributed among *five* cities or transportation corridors
  - Calls for regional governments to sell \$100 million in bonds to help fund the infrastructure build-out
- First 100,000 consumers in each of the five chosen pilot communities get rebates or tax incentives of at least \$2,000
  - Businesses could get up to a \$50,000 credit for purchase and installation of multiple charging stations.

## H.R. 5442 - Application Criteria for Pilot Communities

#### • Plans to:

- Promote, market, and support the deployment of electric drive vehicles in a deployment community
- Make publicly available electric drive vehicle charging infrastructure, including:
  - Policy on cost sharing, methodology for determining the placement of such infrastructure, and ensures use of open, non-proprietary standards that maximize interoperability with Smart Grid technologies.

#### • Outline of:

- The *role of each stakeholder* participating in the deployment, and an indication of how the financial assistance applied for will be used in the deployment community.
- The number of electric drive vehicles projected to be deployed
- The extent to which *electric utilities* in the deployment community have or *plan to update policies*

## **Key Takeaways**

- H.R. 5442 is a much more modest effort to rapidly electrify the national automotive fleet than S.3511
- Senate leadership has already held a Committee Hearing on EV Deployment and modified the legislation based on recommendation from panelists and other stakeholders.
- Excluding the financial scope of the proposed deployment programs, the legislation of both H.R. 5442 and S. 3511 overlaps to a great degree.
- On 7/20, Senate Energy Committee approved scaled back version of Dorgan bill to \$3.6B
- Senate Democrats are debating whether to include new electric vehicle funding as part of an energy bill they hope to approve before Congress goes home on summer recess



# Clean Cities: Next Funding Opportunity FY11 & FY12

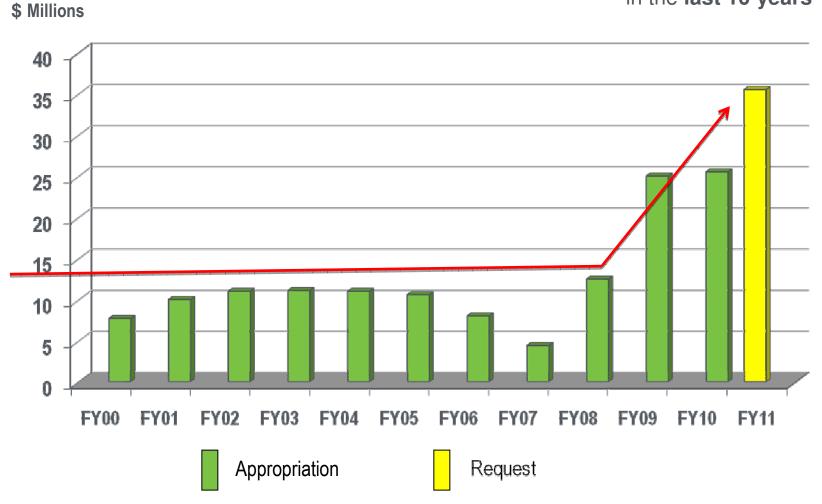
#### **Budget History**

(not including \$300M funding from ARRA)



#### **Clean Cities Budget**

\* ARRA \$300M is > 200% of the Clean Cities budget spent in the last 10 years



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# FY 11 Proposed Clean Cities Budget language and the next Solicitation

- Proposed FY 2011 funding of \$35.5 million includes \$20 million for support of transportation electrification-related infrastructure activities.
- These efforts include market analysis that will identify communities and Regions where aggressive infrastructure deployment efforts will have the greatest chances for success and determine which technologies and vehicle charging systems are market ready, practical, and safe for widespread introduction.



# FY 11 Proposed Clean Cities Budget language and the next Solicitation

- Technical and financial assistance programs will be developed to accelerate the introduction of these technologies, and targeted consumer education and outreach efforts will focus on helping drivers and fleet operators choose electric-drive vehicles and charging systems that best suit their needs while also training the support-service providers that will be needed to install, maintain, and repair these systems.
- Activities supporting codes and standards that facilitate the introduction of electric drive vehicles and infrastructure will also be conducted.



## Potential Funding Categories for FY 11 Solicitation

### 1. Infrastructure for Alternative Fuels:

- fund a percentage of the infrastructure cost associated with developing alternative fuel fueling capability.

### 2. Incremental Cost of Alternative Fuel Vehicles

- fund a percentage of the incremental cost associated with purchase of dedicated alternative fuel vehicles and/or advance technology vehicles.

### 3. Category du jour

- Electrification activities (which may be included in the above or separately)



# Potential Schedule for FY 11 Clean Cities Program Solicitation

- 1. NETL will have Project Management and Administrative oversight
- 2. Estimated Date to Issue Solicitation: Dec 2010- Jan 2011
- 3. Estimated Due Date For Proposals: Feb 2011- Mar 2011
- 4. Estimated Award Date: Summer 2011
- 5. Estimated Funding Available: \$24-30 million in DOE funds over 2 year funding period (i.e. \$12-15 million in FY 11 funds & \$12-15 million in FY 12 funds).

Note: All funding estimates are contingent upon final Federal budget appropriations for FY11 and future fiscal years.



# **Clean Cities National Partner Efforts**

# Clean Cities National Partner Program – Under Development



- The mission of the National Partner Program will be to develop strategic alliances with national fleets to assist their efforts in reducing petroleum consumption through the deployment of alternative fuel vehicles and advanced vehicle technologies.
- Proposed Program Elements:
  - Streamline coordination with Clean Cities via one point of entry, but with access to all 90 coalitions
  - Access to new and existing Clean Cites tools
  - Provide unbiased, accurate technical and market resources
  - Individualized fleet assessments
  - Networking and peer exchange with other national and local fleets
  - Potential for bulk buying or vehicle purchase aggregation
  - Partner recognition at the national and local levels
- More information is forthcoming (anticipated Fall 2010 launch)



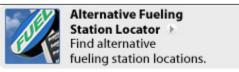
# **Clean Cities Tools & Resources**

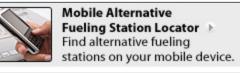
## Tools, Publications, Data, and much more!

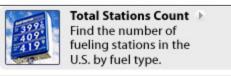


### Web Based and Mobile Versions of Powerful Clean Cities Tools











TransAtlas →
Explore an interactive map displaying alternative fuel and vehicle data.

Search the U.S. incentives

State Information Search

Find alternative fuel

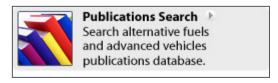
and advanced vehicle

information by state.

Incentives and

Laws Search

and laws database.







Fleet Experiences Search → Browse fleet experience stories by category.





1040

Petroleum Reduction >>
Planning Tool
Forecast fleet
petroleum reduction.



Related Links Search 
Generate a list of fuel 
and vehicle Web sites 
by category.

Access all of the tools and information at

## Clean Cities Web Resources





## **Clean Cities Web Site**



## www.eere.energy.gov/cleancities

- Financial opportunities
- Contact information
  - √ Coalitions
  - ✓ Program staff
- Information resources
  - ✓ Newsletters
  - √ Technology bulletins
  - ✓ Technical assistance



# **FuelEconomy.gov Web Site**



# www.FuelEconomy.gov

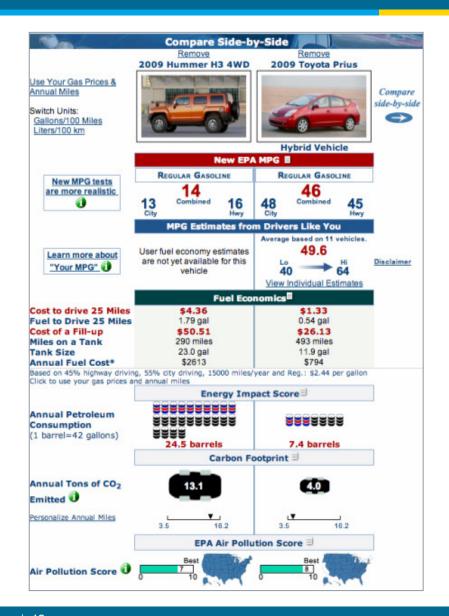
### Fuel economy information

- ✓ Side-by-side comparisons
- ✓ Fuel economy ratings
- √ Carbon footprint
- ✓ Average annual fuel cost



# **Fuel Economy Information**







# Alternative Fuels & Advanced Vehicles Data Center (AFDC) Web Site



# AFDC Web Site - www.afdc.energy.gov

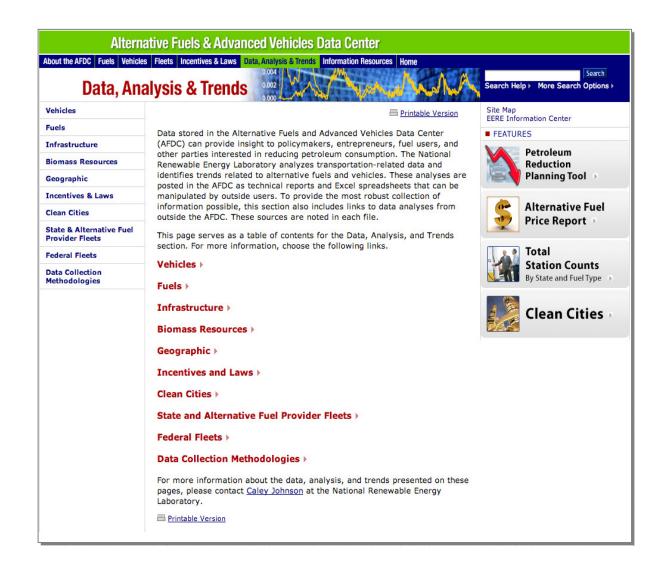
- Alternative fueling station locator
- Incentives and laws
- Clean fleet guide
- Data, analysis, and trends
- Alternative fuel price report
- Technology bulletins & newsletters
- State-specific Web pages
- Vehicles searches
- Cost calculators
- Idle reduction equipment listing and search options
- Searchable document database

...and MORE!



# AFDC Data, Analysis & Trends





### **AFDC Incentives & Laws**







Printable Version

EERE Information Center **Custom Query** 

Create a search query

and state incentives,

**Summary Tables** 

Incentive Type

Regulation Type

Technology/Fuel Type

to compare state laws, combine federal

Our database captures state and federal laws and incentives related to alternative fuels and vehicles, air quality, fuel efficiency, and other transportation-related topics. State-level information is updated annually after each state's legislative session ends. To access state information, select a state from the map below. Federal information is updated after enacted legislation is signed into law. Select the Federal Incentives and Laws link below for the latest federal-level information

Read a brief summary of the provisions of the Energy Improvement and Extension Act of 2008 that was part of the Emergency Economic Stabilization Act. These provisions pertain to alternative fuels and vehicles.

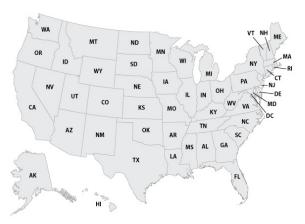
The Energy Independence and Security Act of 2007 (P.L. 110-140) was signed into law on December 19, 2007. This broad-reaching policy contains many provisions to increase energy efficiency and the availability of renewable energy. For the complete text, download The Energy Independence and Security Act of 2007 (PDF 895 KB). Download Adobe Reader

User Type Selected summaries from federal legislation related to alternative fuels and advanced transportation



- · Federal Incentives and Laws
- Recent Federal Actions

technologies are also available, view select summaries.



- List All States Alternative Fuel Vehicle Incentives and Laws
- · List All States Expired Alternative Fuel Vehicle Incentives and Laws

· For additional incentives related to renewable energy, go to the <u>Database of State</u> Incentives for Renewable Energy.

Learn about our data



**EERE Information Center** 

#### Colorado Incentives and Laws

Last Updated July 2008

The Colorado legislature meets annually from early January to early May. During the session, the governor must sign or veto legislation within 10 days of transmittal (except Sundays) or it becomes law without signature. Legislation transmitted to the governor within the last 10 days of the session must be acted upon within 30 days after the last day of the session or it becomes law without signature.

Colorado is the home of the Denver Metro (www.lungcolorado.org/CleanCities.htm), Northern Colorado (www.northcolocleancities.com), and Southern Colorado Clean Cities Coalitions. Coordinator contact information is listed in the Points of Contact section.

#### View All Colorado Summaries

#### State Incentives

- · Biofuels Research Grants
- Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Tax Credit
- Alternative Fuel Vehicle (AFV) Rebate
- · Alternative Fuel Infrastructure Tax Credit
- · High Occupancy Vehicle (HOV) Lane Exemption
- . Low Emission Vehicle (LEV) Sales Tax Exemption

#### State Laws and Regulations

- Clean Energy Development Authority
- . Funding for Alternative Fuel Feedstock Production
- Promulgation of Renewable Fuel Storage Tank Regulations Alternative Fuel Use and Vehicle Acquisition Requirement
- Alternative Fuel Definition
- Alternative Fuel Vehicle (AFV) Registration · Alternative Fuel Vehicle (AFV) Weight Limit Exemption
- · Alternative Fuels Tax and Vehicle Decal
- Gasoline Gallon Equivalent Definition
- Idle Reduction Requirement Denver
- Idle Reduction Requirement Aspen

#### Utilities/Private Incentives

- Natural Gas Fuel Rate Reduction and Infrastructure Maintenance
- Natural Gas Infrastructure Technical Assistance

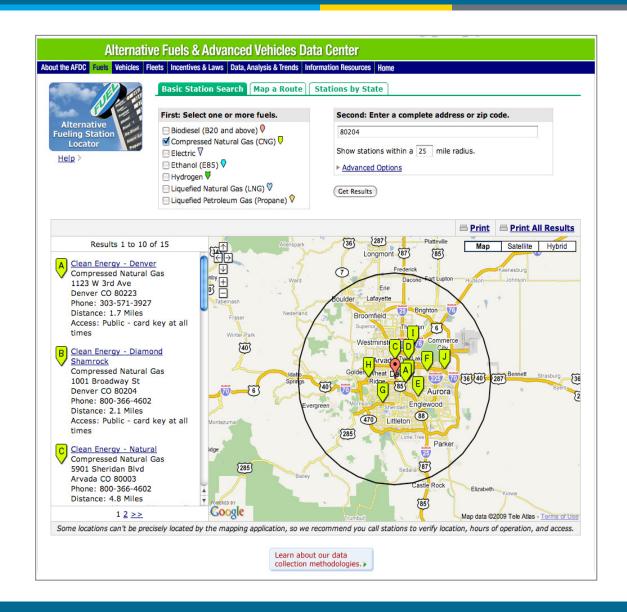
#### Colorado Points of Contact >

#### View All Expired Colorado Laws >

Printable Version

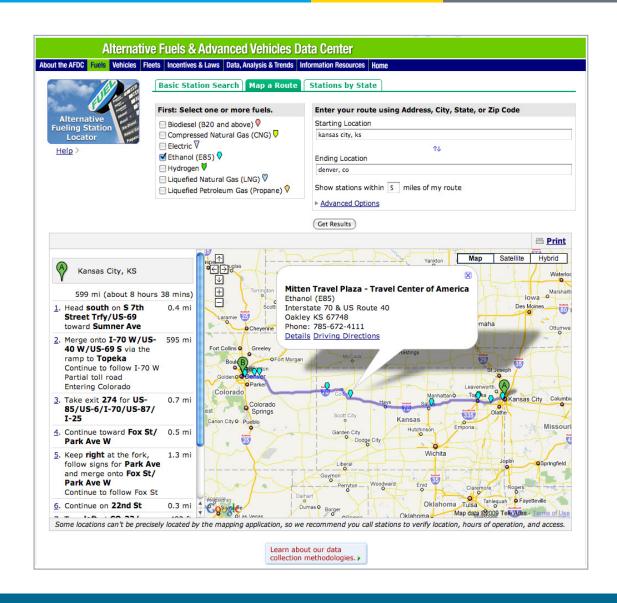
# AFDC Alternative Fueling Station Locator





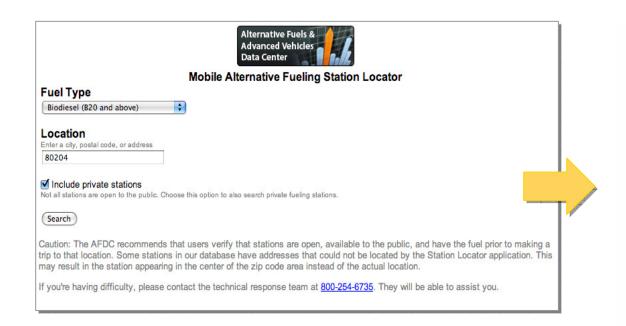
# AFDC Alternative Fueling Station Locator





# AFDC Mobile Alternative Fueling Station Locator

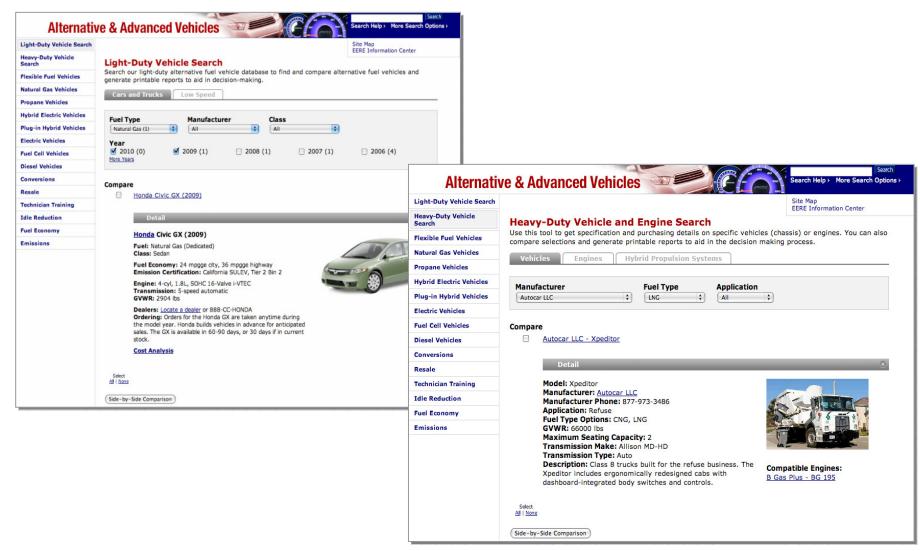






# AFDC Light- and Heavy-Duty Vehicle Search

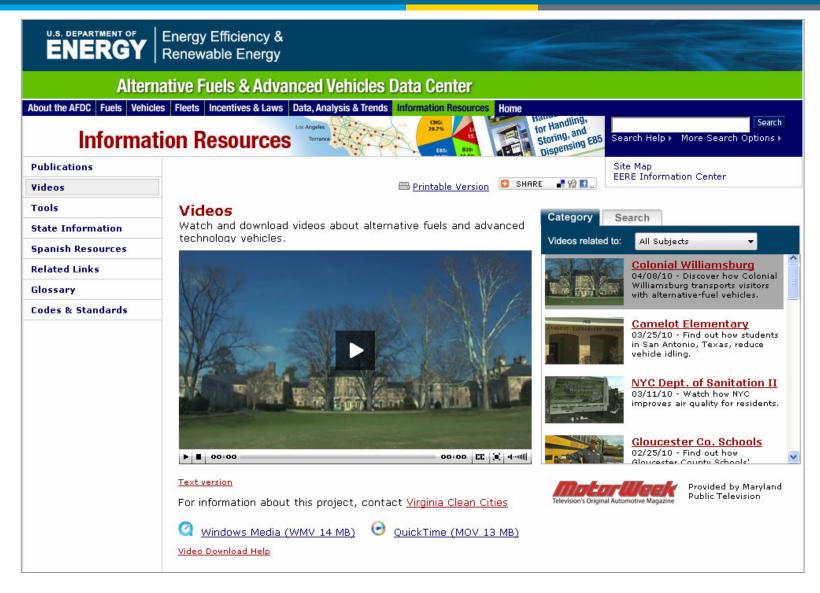




Hard copy guide will be available soon!

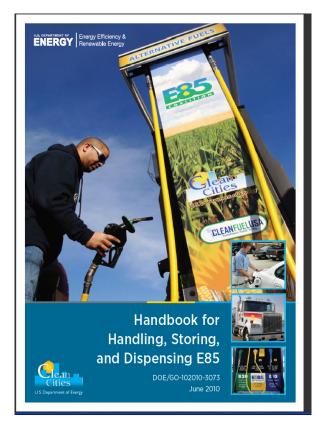
## MotorWeek

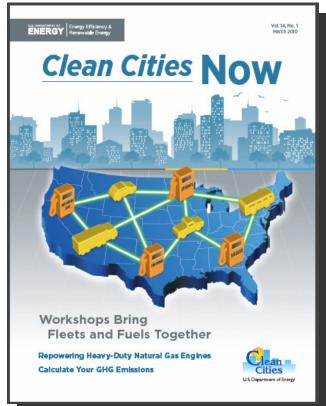


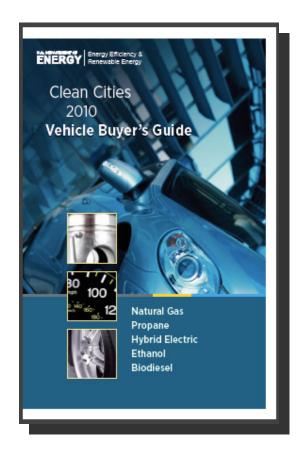


## **Documents & Publications**









### Websites and Contact Information



### **Clean Cities Website**

www.eere.energy.gov/ccities/

### **Clean Cities Coordinators**

www.eere.energy.gov/cleancities/progs/coordinators.php

### **Alternative Fuels & Advanced Vehicles Data Center**

www.eere.energy.gov/afdc

### Mike Scarpino

Clean Cities Regional Project Manager

U.S. Department of Energy

National Energy Technology Laboratory

Pittsburgh, PA

Office: (412) 386-4726

Email: Michael.Scarpino@netl.doe.gov

### **DOE EERE Information Center and Technical Response Service**

Website: http://www.eere.energy.gov/afdc/informationcenter.html

Phone: 1-800-EERE-INF (1-877-337-3463)

E-mail: <u>technicalresponse@icfi.com</u> Hours: 9:00 a.m. – 6:00 p.m. EST

### **American Recovery and Reinvestment Act Website**

http://www.energy.gov/recovery/cleancities.htm